

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (Currently Amended) A composition of matter comprising a purified peptide, wherein said purified peptide binds the transferrin receptor without disrupting the ability of the transferrin receptor to bind transferrin and said peptide contains containing the sequence which is HAIYPRH (Seq. ID No. 1).
2. (Currently Amended) A composition comprising at least one peptide containing within its sequence at least one sequence which is HAIYPRH (Seq. ID No. 1), wherein said at least one peptide containing within its sequence at least one sequence which is HAIYPRH binds the transferrin receptor without disrupting the ability of the transferrin receptor to bind transferrin and wherein said peptide is fused to a protein, a second or another peptide, a chemotherapeutic agent or an imaging agent.
3. (Currently Amended) A composition of claim 2 wherein said sequence containing at least one sequence HAIYPRH (Seq. ID No. 1) is fused to a chemotherapeutic agent is methotrexate.
4. (Currently Amended) A composition of claim 2 wherein said sequence containing at least one sequence which is HAIYPRH (Seq. ID No. 1) is fused to an imaging agent is a fluorescing agent.
5. (Currently Amended) A composition of claim 4 wherein said sequence containing at the sequence HAIYPRH (Seq. ID No. 1) is fused to a fluorescing agent is green fluorescent protein.
6. (Currently Amended) A composition of claim 2 wherein said protein or second peptide is sequence containing the sequence HAIYPRH (Seq. ID No. 1) is fused to an antigen.
7. (Currently Amended) A composition of matter comprising a construct containing a DNA sequence which encodes at least one of the peptide of the formula HAIYPRH (Seq. ID No. 1) which is also bound to a nucleotide sequence which encodes a peptide other than HAIYPRH (Seq. ID No. 1) wherein said at least one of the peptide of the formula

HAIYPRH which is also bound to a nucleotide sequence which encodes a peptide other than HAIYPRH binds the transferrin receptor without disrupting the ability of the transferrin receptor to bind transferrin.